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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/556,643

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Jurgen Gieshoff

UMICORE 0025-US

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EXAMINER

MATTHIAS, JONATHAN R

ART UNIT

PAPER NUMBER

3748

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/556,643	Applicant(s) GIESHOFF ET AL.	
	Examiner Jonathan Matthias	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Amendment filed on June 4th, 2009 has been entered. Claims 4 and 8 have been cancelled. Claims 1-3 and 5-7 are pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PG PUB No. 2002/0053202 to Akama et al. (Akama) in view of US PG PUB No. 2001/0036432 to Hu et al. (Hu).

5. In reference to claim 1, Akama discloses an oxidation catalyst and a downstream particulate filter, and a hydrogen adsorber is arranged closely upstream of the particulate filter (see Fig. 5; Example 16, par. 0095+, etc.) and wherein the particulate

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filter is a wall flow filter (par. 0050, etc.), which is coated with an oxidation catalyst on an entry side (par. 0046-0048, etc.). Akama fails to specifically disclose wherein a converter shell is arranged in the exhaust-gas system closely downstream of the engine outlet and the adsorber is arranged in the underfloor area. Hu is brought in merely to demonstrate that it is conventional in the art to place an oxidation catalyst closely downstream of the engine outlet, and to place an additional catalyst in the underfloor area (par. 0038). It would have been obvious to one having ordinary skill in the art at the time of invention to have placed the oxidation catalyst of Akama closely downstream of the engine outlet, as demonstrated by Hu, to have the benefit of improving cold start conditions, as taught by Hu. Furthermore, it would have been obvious to one of ordinary skill in the art to have placed the adsorber and filter of Akama conventionally under the floor, as demonstrated by Hu, to have the predictable result of improved packaging.

6. In reference to claim 5, the modified Akama teaches the system of claim 1, but fails to specifically disclose the storage capacity of the hydrocarbon adsorber. However, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation (see MPEP 2144.05 Section II). Therefore, the prior art of Akama meets the limitations of the claim.

7. In reference to claim 6, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the

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method claimed will be considered to be anticipated by the prior art device. Therefore, the limitations of the claim are met by the system of the modified Akama.

8. In reference to claim 7, Akama further discloses the concentration of hydrocarbons in the exhaust gas is raised by post-injecting hydrocarbons into the cylinders of the internal combustion engine during the storage phases in order to increase the mass of stored hydrocarbons (par. 0104).

9. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Akama as applied to claim 1 above, and further in view of US Patent No. 6,080,375 to Mussmann et al. (Mussmann).

10. In reference to claim 2, the modified Akama discloses the system of claim 1, further including the adsorber comprising a honeycomb body that employs a zeolitic coating including platinum as a catalytically active component (see pars. 0095-0100). Akama fails to disclose a specific mixture of zeolites ZSM-5 and DAY. Mussmann is brought in merely to demonstrate that it is conventional to employ zeolites ZSM-5 and dealuminized Y-zeolite (DAY) in a hydrocarbon adsorber (col. 4, line 54 - col. 5, line 8). It has been held that the simple substitution of one known element for another to obtain predictable results is obvious. Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to have substituted a conventional adsorber including a formulation of ZSM-5 and DAY, as suggested by Mussmann, for the system's hydrocarbon adsorber as disclosed by the modified Akama to have the predictable result of hydrocarbon adsorption. With regards to the limitation of the concentration of platinum in the coating, it has been held that where the general

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conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation (see MPEP 2144.05 Section II). Therefore, the prior art of the modified Akama meets the limitations of the claim.

11. In reference to claim 3, the modified Akama teaches the system of claim 2, and Akama further discloses that the oxidation catalyst includes a catalytically active coating of platinum-activated aluminum oxide or aluminum silicate on a honeycomb body (par. 0037).

Response to Arguments

12. Applicant's arguments with respect to claims 1-3 and 5-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US PG PUB No. 2003/0115859 to Deeba and US Patent No. 6,167,696 to Maaseidvaag et al. each disclose a similar system that employs an oxidation catalyst, hydrocarbon adsorber, and particulate filter.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Matthias whose telephone number is (571) 270-5840. The examiner can normally be reached on Monday-Friday 8:00AM-5:00PM.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E. Denion/
Supervisory Patent Examiner, Art Unit 3748

JM